Amendments to the Claims:

51. ~~54~~ (Currently Amended) A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:

a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions, each region comprising an electrode and a self-assembled mixed monolayer comprising

i) blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and

ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;

wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid;

wherein at least two different regions comprise different probe nucleic acids;

b) adding an agent that distinguishes between single and double stranded nucleic acids; and

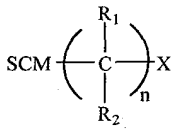
c) detecting the presence of said first hybridization complex.

52. ~~55~~ (Currently Amended) A method according to claim ~~54~~ 51,wherein said first end of said blocking moieties is attached to said electrode via a sulfur linkage.

53. ~~56~~ (Currently Amended) A method according to claim ~~55~~ 52, wherein said first end of said linker is attached to said electrode via a sulfur linkage.

54. ~~57~~ (Currently Amended) A method according to claim ~~54, 55 or 56~~ 51, 52, or 53, wherein said electrode comprises gold.

55. ~~58~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said blocking moieties have the formula:



wherein

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;

R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups;

n is an integer from 3 to 50; and

X is a terminal group.

56. ~~59~~ (Currently Amended) A method according to claim ~~58~~ 55, wherein R_1 and R_2 are hydrogen.

57. ~~60~~ (Currently Amended) A method according to claim ~~59~~ 56, wherein said blocking moieties comprise alkyl groups.

58. 61 (Currently Amended) A method according to claim ~~58, 59 or 60~~ 54, 55, or 56, wherein n is ≥ 6.

59. ~~62~~ (Currently Amended) A method according to claim ~~54~~ 51,wherein said blocking moiety is a branched molecule.

60. ~~63~~ (Currently Amended) A method according to claim ~~62~~ 59, wherein said blocking moiety is a straight chain alkyl group.

61. ~~64~~ (Currently Amended) A method according to claim ~~63~~ 60, wherein said alkyl ranges from 1 to 20 carbon atoms.

62. ~~65~~ (Currently Amended) A~~n~~ method according to claim ~~54~~ 51, wherein said array comprises a plurality of different blocking moieties.

63. ~~66~~ (Currently Amended) A method according to claim ~~65~~ 62, wherein at least one of said blocking moieties is a branched molecule.

64. ~~67~~ (Currently Amended) A method according to claim ~~65~~ or 66 62 or 63, wherein at least one of said blocking moieties is an alkyl group.

65. ~~68~~ (Currently Amended) A~~n~~ method according to claim ~~58~~ 55, wherein for said blocking moiety,
SCM is a thiol containing moiety;
R_1 and R_2 are hydrogen;
n is 16; and
X is hydroxyl.

67. ~~70~~ (Currently Amended) A~~n~~ method according to claim ~~54~~ 51, wherein said linker moiety is a straight chain alkyl group.

68. ~~71~~ (Currently Amended) A~~n~~ method according to claim ~~70~~ 67, wherein said alkyl group ranges from 1 to 20 carbon atoms.

69. ~~72~~ (Currently Amended) A method according to claim ~~69~~ 51, wherein for said linker moiety,
SCM is a thiol containing moiety;
R_1 and R_2 are hydrogen;
n is 16; and
Y is oxygen.

71. ~~74~~ (Currently Amended) A method according to claim ~~73~~ 70, wherein R_1 and R_2 are hydrogen.

72. ~~75~~ (Currently Amended) A method according to claim ~~69, 73 or 74~~ 51, wherein n is ≥ 6.

74. ~~77~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said blocking moiety comprises a phosphorus-containing moiety.

75. ~~78~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said nucleic acid is attached to said linker at a 2' position of a ribose.

76. ~~79~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said nucleic acid is attached to said linker at a 3' position of a ribose.

77. ~~80~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said nucleic acid is attached to said linker at a base of said nucleic acid.

78. ~~81~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said nucleic acid is attached to said linker at a phosphate linkage of said nucleic acid.

79. ~~82~~ (Currently Amended) A method according to claim ~~54~~ 51, wherein said agent is an intercalating agent.

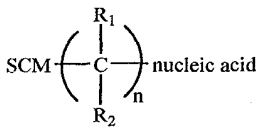
80. (New) A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:

a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions, each region comprising an electrode and a self-assembled mixed monolayer comprising

i) blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and

ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;

wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid; and
wherein said modified nucleic acid the formula:



wherein:

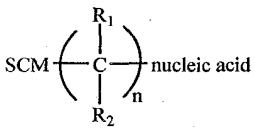
SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;
R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups; and
n is an integer from 3 to 50; and

wherein at least two different regions comprise different probe nucleic acids;

b) adding an agent that distinguishes between single and double stranded

nucleic acids; and
c) detecting the presence of said first hybridization complex.

81. (New) A method of detecting at least one hybridization complex comprising a target nucleic acid, said method comprising:
a) adding a target nucleic acid to an array to form at least a first hybridization complex, said array comprising a solid support having a plurality of regions, each region comprising an electrode and a self-assembled mixed monolayer comprising
i) branched molecule blocking moieties, having a first end attached to said electrode, wherein said blocking moieties shield nucleic acids from said electrode; and
ii) at least one modified nucleic acid comprising a nucleic acid and a linker moiety having a first and second end;
wherein said first end of said linker is attached to said electrode and said second end is covalently attached to said nucleic acid; and
wherein said modified nucleic acid the formula:

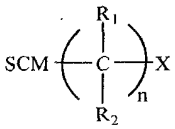


wherein:
SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;
R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups; and
n is an integer from 3 to 50; and

wherein at least two different regions comprise different probe nucleic acids;
b) adding an agent that distinguishes between single and double stranded nucleic acids; and
c) detecting the presence of said first hybridization complex.

82. (New) A method according to claim 80 or 81 wherein said first end of said blocking moieties is attached to said electrode via a sulfur linkage.

83. (New) A method according to claim 80 or 81 wherein said blocking moieties have the formula:



wherein

SCM is a sulfur-containing moiety, wherein said sulfur containing moiety is attached to said electrode;
R_1 and R_2 are independently selected from the group consisting of hydrogen and substituent groups;
n is an integer from 3 to 50; and
X is a terminal group.

84. (New) A method according to claim 80, wherein said blocking moiety is a branched molecule.

85. (New) A method according to claim 80 or 81, wherein said array comprises a plurality of different blocking moieties.

86. (New) A method according to claim 80 or 81, wherein for said linker moiety,

SCM is a thiol containing moiety;
R_1 and R_2 are hydrogen;
n is 16; and
Y is oxygen.

87. (New) A method according to claim 80 or 81, wherein n is ≥ 6.

88. (New) A method according to claim 80 or 81, wherein said blocking moiety comprises a phosphorus-containing moiety.

89. (New) A method according to claim 80 or 81, wherein said blocking moiety comprises a phosphorus-containing moiety.

90. (New) A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a 2' position of a ribose.

91. (New) A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a 3' position of a ribose.

92. (New) A method according to claim 80 or 81, wherein said nucleic acid is attached to said linker at a base of said nucleic acid.

93. (New) A method according to claim 80 or 81, wherein said agent is an intercalating agent.